



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,607	09/28/2004	Thomas E Frankel	2004-309-SSI	5606
36583 7590 05/03/2007 STAMFORD SCIENTIFIC INTERNATIONAL, INC. 4 TUCKER DRIVE POUGHKEEPSIE, NY 12603			EXAMINER SANDERS, JANIS C	
			ART UNIT 1732	PAPER NUMBER
			MAIL DATE 05/03/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/711,607

Applicant(s)

FRANKEL ET AL.

Examiner

Janis Sanders

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-11, 17 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-16, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/28/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

This office action is in response to the paper filed 12 February 2007.

### ***Election/Restrictions***

1. **Claims 1-11, 17 and 18** withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected article, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 12 February 2007.
2. Applicant's election with traverse of the restriction requirement in the reply filed on 12 February 2007 is acknowledged. The traversal is on the ground(s) that the article is most desirably made by the process required in the elected claims. This is not found persuasive because another can make the product as claimed and materially different process as detailed by the examiner in the requirement for restriction. Applicant has not demonstrated that the product cannot be made by another process.

The requirement is still deemed proper and is therefore made FINAL.

### ***Specification***

Art Unit: 1732

3. The disclosure is objected to because of the following informalities: the use of acronym EPDM. Please disclose full term of acronym in application.

Appropriate correction is required.

***Information Disclosure Statement***

4. An initialed and dated copy of Applicant's IDS form 1449 filed 28 September 2004, is attached to the instant Office action.

***Claim Rejections - 35 USC § 112, second paragraph***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 12-16, 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claim 12** recites the limitation "an uncured fluoroelastomer film." It is not clear in the claim, if the 'uncured fluoroelastomer film' required in step b. is the same, or a

Art Unit: 1732

different article as the 'polymer layer' required in step a. There needs to be consistency in terms used or clear requirement of a second article in the claim.

Further, claim 12 recites the limitation "associating a polymer layer with a substrate in a mold." It is unclear whether the 'polymer layer' required is the substrate, or a separate polymer layer introduced. If the 'polymer layer' is separate, it has not been defined what happens to the layer in step a.), where first introduced. The office suggests to delete the phrase "associating a polymer layer with a substrate" from step a) and positively recite the pre-curing step in step (a), coating the pre-cured substrate with the fluoroelastomer film/ fluoropolymer and curing to form the intermediate article in step (b), and the post-cure step in step (c).

Clarification and/or correction are required.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 12-16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukushi in view of Yamamoto et al.

Regarding claim 12, Fukushi (US 6,759,129) teaches a process for preparing a multi-layer article including a fluoropolymer layer. Each of the fluoropolymer (fluoroelastomer) and the substrate, independently, may be provided as a film or as a molded or shaped article (col. 9, lines 12-14). The fluoropolymer and substrate contact each other in the case where the bonding composition is mixed with either the fluoropolymer or the substrate (col. 9, lines 14-17). After contact, heat, pressure, or combinations thereof, can be applied during bonding. Suitable heat sources include ovens (col. 9, lines 22-25). Heat is applied at a temperature and time suitable to form a bond between the substrate and the fluoropolymer. For example, the temperature may be between 40 and 300°C., between 45 and 200°C., or between 50 and 150°C (col. 9, lines 27-31). The film or sheet thickness of all substrates is 0.2mm unless otherwise indicated (col. 10, lines 11-13).

The difference between the reference and the claims is that the reference does not disclose a three-step process of heat curing the multilayered article.

Yamamoto et al. (US2003/0129383) teaches a process for the production of a printed wiring board by superposing an interlaminar resin insulating layer and a conductive circuit on a surface of a wiring board.

The process including said precuring step is carried out by two stages of a primary precuring at a temperature of 90 to 110°C. and a secondary precuring at a

Art Unit: 1732

temperature of 110 to 130°C (page 11, claim 20). Thereafter, the precured composition is again heated for the sake of final curing (finish curing) at a temperature of about 140 to 180.°C. for about 30 to 90 minutes [0064].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Fukushi to include a sequence of heat curing steps as taught by Yamamoto et al. One of ordinary skill would have been motivated to do so to acquire improved layer adhesion. Because both references are concerned with the process of curing of a multilayered article, one would have a reasonable expectation of success from the combination.

As required by **claims 13 and 14**, Fukushi teaches the fluoroelastomer can be a copolymer. In addition to the olefinic hydrocarbon monomer, the copolymer can be derived from fluorinated monomers including, for example, tetrafluoroethylene, vinylidene fluoride, hexafluoropropylene, fluorinated vinyl ethers or combinations thereof. The olefinic hydrocarbon can be propylene or ethylene (col. 2, lines 4-10).

As required by **claims 15 and 16**, Fukushi teaches the substrate can include a metal or a non-fluorinated polymer, such as a thermoplastic polymer or a thermoplastic elastomer. The non-fluorinated polymer can be a nitrile rubber, an ethylene-propylene-diene monomer rubber, an epichlorohydrin rubber, an ethylene-acrylate copolymer rubber, a polyamide, a polyurethane, a polyolefin, or combinations thereof (col. 2, lines 13-19).

**Claim 19** requires a said polymer layer comprising a fluoropolymer. Fukushima teaches in one aspect, a multi-layer article includes a first polymer layer, a substrate, and a bonding layer on a surface of the first polymer layer and in contact with the substrate. The first polymer layer includes a fluoropolymer (col. 1, line 57-60).

**Claim 20** requires said fluoroelastomer film comprises a monomer segment derived from an olefinic hydrocarbon. Fukushima teaches the bonding layer includes a fluoroelastomer, wherein the fluoroelastomer comprises a monomer segment derived from an olefinic hydrocarbon (col. 1, line 61-63).

***Remarks***

9. No claim is allowed.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suwa et al. (US 2004/0091713), Fukushima et al. (US 6,074,719), Jing et al. (US 6,753,087), Jing et al. (US 6,197,393) disclose methods of preparations of multiple layer articles including fluoropolymers and non-fluorinated.



Art Unit: 1732


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis Sanders whose telephone number is 571-272-7145. The examiner can normally be reached on M-Th and alternating Fridays 7:30-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Janis Sanders  
Patent Examiner  
Art Unit 1732

4/25/07

  
CHRISTINA JOHNSON  
SUPERVISORY PATENT EXAMINER  
4/20/07